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Financial Sustainability in Iraq: Challenges and Opportunities

الاستدامة المالية في العراق: التحديات والفرص

Muhannad Jameel Waheed Al-Obaidi [1], Saeed Ali Muhammad Al-Obaidi [2]

[1] Anbar University (Iraq), mohaneedjameel@gmail.com

[2] Anbar University (Iraq), saeed60ali@uoanbar.edu.iq

Abstract:

In the recent period, interest in the topic of financial sustainability has increased among researchers and economists due to its future implications for implementing government policies and maintaining financial solvency.

The research problem focuses on the state's adoption of an expansionary financial policy, characterized by increased operational spending and reliance on oil revenue, which can lead to a contractionary financial policy during periods of reduced oil income. This approach hinders future sustainability and increases the size of public debt, posing a risk to financial stability. The study concludes that revenues from crude oil production continue to dominate the state's income, a trend expected to persist.

Keywords: Financial Sustainability, Government Policies, Sustainable Financial Policy, Economic Stability, Rentier Economies.

Jel Classification Codes: G32.

الملخص:

ازداد الاهتمام بموضوع الاستدامة المالية في الفترة الأخيرة بين الباحثين والاقتصاديين لما له من انعكاسات مستقبلية على تنفيذ السياسات الحكومية والحفاظ على الملاءة المالية. وتركز مشكلة الدراسة على تبني الدولة لسياسة مالية توسعية، تتسم بزيادة الإنفاق التشغيلي والاعتماد على عائدات النفط، وهو ما يمكن أن يؤدي إلى سياسة مالية انكماشية خلال فترات انخفاض الدخل النفطي. ويعوق هذا النهج الاستدامة في المستقبل ويزيد من حجم الدين العام، مما يشكل خطرا على الاستقرار المالي. وخلصت الدراسة إلى أن عائدات إنتاج النفط الخام لا تزال تهيمن على دخل الدولة، وهو اتجاه من المتوقع أن يستمر.

الكلمات المفتاحية: الاستدامة المالية، السياسات الحكومية، السياسة المالية المستدامة، الاستقرار الاقتصادي، الاقتصادات الريعية.

تصنيف JEL: G32.

*Corresponding author: Muhannad Jameel Waheed Al-Obaidi, **e-mail:** mohaneedjameel@gmail.com

1. Introduction:

Financial sustainability means the government's ability to meet its financial crises and finance its expenditures from its own resources without ensuring the sustainability of current expenditures, especially from own revenues, negatively affecting financial solvency or exposing it to the risk of bankruptcy. The challenge facing most developing countries is the lack of continuity in the flow of financial resources to finance the budget, which creates a deficit in it. Therefore, it is necessary to take the necessary measures to achieve the optimal mix between public expenditures and revenues in the medium and long term to achieve the optimal mix between them, while maintaining the ability to continue spending on basic goods and services. In Iraq, financial sustainability is closely linked to oil revenues, which constitute about 90% of public revenues, despite the existence of other sources of revenue such as taxes and fees. However, in reality, oil revenues dominate the general budget, which makes the Iraqi economy vulnerable to fluctuations in global markets, which is a negative indicator of the country's financial sustainability.

1.1 Importance of the research:

Measuring and analyzing financial sustainability (assessing the financial position) is one of the most important topics currently being discussed, as it aims to provide liquidity and ensure financial solvency. The existence of a sustainable financial policy means ensuring the rights of future generations without affecting the financial solvency of the state. Therefore, the importance of the research comes from evaluating Iraq's ability in the long term to meet its current and future financial obligations.

1.2 Research problem:

The Iraqi economy suffers from increased public spending, especially current spending (consumer), and incorrect. Exploiting oil revenues without on and relying heavily on diversifying revenues in this led to an increase in the size of the deficit and public debt, which negatively affected financial sustainability.

1.3 Research objectives:

- Clarifying the importance of financial sustainability and analyzing the economic and financial reality of Iraq.
- Measuring and analyzing the relationship between financial sustainability indicators and oil revenues.

1.4 Research hypothesis:

Directly linked to Iraq's financial sustainability enhancement means that the research hypothesis starts from oil revenues, which gives a negative indicator of the state of financial sustainability in the country.

1.5 Research Structure:

The research was divided into three axes, The first axis included the theoretical framework for financial sustainability, The second axis analyzed financial sustainability indicators in Iraq, The third axis measured financial sustainability indicators in Iraq, The first axis/the theoretical framework for financial sustainability.

2. The emergence of financial sustainability:

The origin of the term "sustainability" goes back to ecology, where it was used to express the formation and development of dynamic systems that are subject to structural changes as a result of their dynamism, which leads to changes in their characteristics and relationships between their elements (Muhammad and Aziz, 2019: 102). The first attempts to analyze financial sustainability began in 1923 when France faced the public debt crisis, where John Maynard Keynes advised the French government to develop sustainable financial policies. The concept of sustainability has received wide attention since 1978, initially linked to economic development and focusing on the social, environmental, and economic dimensions, thanks to significant contributions adopted by the United Nations and its institutions. In the mid-eighties of the last century, the concept of financial sustainability began to circulate to describe future challenges that public financial management might face due to escalating deficit and debt levels resulting from excessive public spending, which exacerbates financial burdens that future generations may bear as a result of decisions they did not participate in making or did not benefit from (Al-Saqa and Al-Sindi, 2021: 39). The analysis of financial sustainability helps understand the practical importance of financial sustainability without the long-term impact on public revenues, spending in continuity, financial sufficiency, or exposure to risks of financial insolvency and failure to meet future crises. This results from weak financial sustainability and increasing general budget deficits financed through local and external debt. Additionally, financial sustainability analysis can be used as a scientific framework to analyze and explain the relationship between financial situations and overall economic performance, especially in matters of economic growth and financial and monetary stability. It is also considered an important tool for decision-makers in determining amendments and reforms in financial policy (Al-Hawri, 2015: 277). The main goal of financial policy is not only to achieve a certain level of deficit in the general budget and control general policies objectives in light of a

sustainable financial situation but also to preserve financial resources (Al-Wasal, 2018: 54).

3. The concept of financial sustainability:

Financial sustainability is defined as the state's ability to meet its current and future financial crises without compromising its financial stability. It is a methodology that depends on debt scheduling (Moash, 2020: 4) to rectify the ratio of public debt to GDP at a specific level or to determine a target ratio of GDP, allowing for adjustments. Financial reforms are formulated to achieve this ratio, which serves as a hypothesis for predicting the future based on agreed policies for a specific period, often five years. In this context, fiscal policies aim to achieve sustainable welfare, producing an implicit measure of sustainability as a reduction in economic stress over time (R. Khalili, 2011: 6). The term financial sustainability refers to managing debt in a public, medium- term, or long-term context that avoids financial or fiscal stress or crises, such as significant reductions in public spending or cessation of government activities (Wasal, 2016: 83). International experience shows that financial sustainability is defined as "the ability to manage debt in a public, medium-term context that exceeds public, medium-term, or long-term financial and fiscal stress or crises." Financial sustainability is also described as "the situation in which the borrower is able to service its debts without having to make a major change in the balance of expenditures and revenues in the future" (Mukhtar and Arbah, 2018: 401). The European Commission defines it as "the ability to bear the financial burdens of debts in the future while avoiding excessive increases in government expenditures and not burdening future generations with the burden of debts" (Carone, 2012: 1). In oil-exporting countries, financial sustainability is particularly defined as a guarantee for the post-oil period, ensuring the same level of public goods or spending as during the oil era, even if oil revenues are replaced by tax revenues, thus financing the budget deficit and achieving financial sustainability (Aslanli, 2015: 2)

In other words, financial sustainability is defined as (the government's ability to meet its financial crises in the present and future) (Hamad and Badawa, 2015: 80). From the above, it can be said that financial sustainability has many concepts, which center around the concept of sustainability as a principle, and include the following elements:

- Continuing spending and public revenues in the long term.
- Avoiding excessive borrowing by the government.
- The government can continue to service its debts.

- Achieving the desired growth.

Thus, it is clear that financial sustainability means the government's continuation of spending and public revenue policies in the long term, without compromising public debt in order to achieve the desired growth. Financial sustainability was defined in the traditional sense (which is consistent with the balanced budget rule and in a way that maintains the balance of the budget and prevents the accumulation of debts, and if there is a budget deficit, it must be an emergency deficit that disappears with the disappearance of those temporary circumstances), while sustainability in the modern sense (must be consistent with the flexible budget rule that allows the government to achieve a temporary budget deficit according to a specific time frame on the reasons for that deficit and how to cover it with clarification within certain limits, in the form of This returns the budget to the equilibrium position) (Mahmoud, 2017: 63).

Some studies have relied on linking the concept of sustainability with the time constraint of the budget, which means that any deficit in the budget must be covered in the future by future revenues. The public finances become sustainable when the public debt ratio remains constant, so that it returns to its original levels in the event of changes or emergency events. To achieve this,

The government's financial resources must be sufficient to cover future debt burdens without the need to reschedule debts or borrows again to pay off debts (Al-Amroy, 2020: 113).

From the above, financial sustainability is linked to two basic concepts: taxes and public debt, each of which has an impact on the possibility of achieving sustainability. Franco and Balassone stated that the state should not resort to continuously resorting to the budget deficit to address the problem of raising tax rates to solve its financial problems in order to achieve sustainability. Blanchard defined financial sustainability as (the policy that ensures the stability of the ratio of public debt to GDP, i.e. the increase in the ratio of public debt.

The problem of sustainability is not the level of debt but the GDP, the increase in GDP must be accompanied by the way the government uses those funds).

4.The indicator of the ratio of public debt to GDP in Iraq for the period (2004-2021):

This indicator is considered one of the important indicators because it is linked to a basic variable, which is the GDP, as and security in knowing the extent of risk. The adopted measures GDP is from to the ratio of public debt of borrowing operations, the debt ratio has been set at no

more than (60%) of the GDP in order to be within the limits of safety, as this ratio is called (the debt ceiling), which is a standard adopted by international financial institutions and was agreed upon by the countries of the European Union under the Maastricht Treaty. It negatively affects economic development processes (Atta Allah and Al-Ubaidi, 2021: 367). The high ratio is represented by the debts accumulated before 2003 from the era of the former regime and the country's inability to meet the debt and service it, as well as the decline in the gross domestic product. The ratio of public debt to gross domestic product before 2003 exceeded the safe limits and posed risks to the

GDP. After 2003, the economy was very high in Iraq during the period from 2004 to 2007, and it greatly exceeded the safe limits of the debt, as it recorded about (307.70%) in 2004, which is the highest rate recorded during the study period. This ratio began to decrease to record (61.19%) in 2007, and it continued to exceed the safe limits of the debt.

But this percentage began to gradually decrease, and is within safe limits due to the growth of the gross domestic product, in addition to the increase in Iraq's oil exports and the rise in oil prices in global markets, which led to an increase in public revenues, especially oil revenues, and a decrease in the size of the debt, in addition to Iraq's commitment to pay its debts after the agreement with the creditor countries. However, the index ratio began to gradually increase, reaching (63.99%) of the GDP in 2016, which is a ratio that exceeds the safe limits referred to, as a result of the double shock that Iraq was exposed to and its repercussions after 2014, represented by the security deterioration in Iraq due to the military operations against the terrorist organization ISIS, as well as the decline in oil prices in global markets, which led to a decline in the GDP and an increase in the public debt to (126021) billion dinars in 2016, which was damaged by the war, for the reconstruction of the infrastructure, as well as military expenditures to cover and the inability to meet the seriousness of the size of the public debt and the heavy burden of the debt and sabotage operations, which is an indicator of the Iraqi economy to meet its financial crises towards its creditors.

The ratio of public debt to the GDP began to fluctuate between the decrease And the increase, but it is within safe limits until it reached its lowest level during the study period, as it reached (24.71%) in 2019. This is due to the decrease in public debt to (68664) billion dinars on the one hand, and the increase in the gross domestic product on the other hand due to the increase in Iraq's oil exports and the rise in oil prices. It is worth noting that the adoption of the public debt-to-GDP ratio indicator in economies that what to of their GDP indicates (65%) or more crude oil

ratio which constitutes the oil ratio of goods and services produced by the economy as an indicator of paying debts without incurring more debt is an inaccurate indicator, as this ratio may rise to levels exceeding (100%) in a rentier economy such as the Iraqi economy when global crude oil prices decline for more than a year. The debt ratio is usually misunderstood to indicate (100%) that the ratio that exceeds GDP, as many believe to insolvency, debts due or bankruptcy is the legal status of governments unable to pay Japan is a country with a ratio of more than (200%), for more than a decade with no signs of default Payment. Therefore, this ratio does not provide strong statistics on the probability of default in a country.

Table (1). Iraq's public debt to GDP ratio for the period (2004-2021)

Year	Total Public Debt (Billion Dinars)	GDP (Billion Dinars)	Total Debt to GDP(%)
2004	163,804	53,235	307.70
2005	122,049	73,533	165.98
2006	95,329	95,588	99.73
2007	68,195	111,456	61.19
2008	65,921	155,982	42.26
2009	56,650	130,643	43.36
2010	75,900	162,064	46.83
2011	79,127	217,327	36.41
2012	73,832	254,225	29.04
2013	72,720	273,587	26.58
2014	78,542	266,332	29.49
2015	108,183	194,681	55.57
2016	126,021	196,924	63.99

2017	125,814	221,665	56.76
2018	90,776	268,918	33.76
2019	68,664	277,884	24.71
2020	99,069	219,768	45.08
2021	101,097	301,439	33.54

The table was prepared by the researcher based on: Column (1) and (2) Republic of Iraq, Ministry of Planning and Cooperation Development, Central Statistical Agency, Statistical Bulletin (2004-2021) Column (3) of the work Researcher.

2. The deficit to GDP ratio in Iraq for the period (2004-2021):

The calculation of the index depends on the assessment of the deficit or primary surplus of the general budget by calculating the difference between public expenditures and public revenues. The deficit to GDP ratio was determined Local Not exceeding 3% according to the Federal Financial Management Law No. (6) of 2019 (Arab Deposits, 2018: 7), and it is considered an important indicator as it aims to control the accumulation of debts and achieve financial sustainability. We note that The Iraqi federal budget suffers from a planned rather than an actual fragmentation, because the deficit often turns into a surplus at the end of the fiscal year, but in some years the federal budget suffers from an actual fragmentation resulting from the limited non-oil revenues, especially taxes. Table (2) indicates that in most of the study years, the deficit-to-GDP ratio was positive, meaning that the budget had a surplus, but the percentage was high, which means achieving financial sustainability, including the years 2009, 2013-2016, and 2019-2020. The budget deficit in 2009 was negative, i.e. it was fragmented. The deficit to GDP ratio reached a negative percentage of (-0.27%), but within safe limits. This is due to the country being affected by the global crisis that the world witnessed. Decrease in public revenues due to the decline in oil prices, but it ensures safe limits for the deficit.

Table (2). Deficit to GDP ratio in Iraq for the period (2004-2021)

Year	Surplus or (Deficit) (Billion Dinars)	GDP (Billion Dinars)	Surplus or (Deficit) to GDP (%)
2004	1,467	53,235	2.76
2005	9,604	73,533	13.06
2006	11,561	95,588	12.09
2007	15,656	111,456	14.05
2008	13,364	155,982	8.57
2009	(347)	130,643	(0.27)
2010	44	162,064	0.03
2011	25,231	217,327	11.61
2012	14,678	254,225	5.77
2013	(5,288)	273,587	(1.93)
2014	(8,088)	266,332	(3.04)
2015	(3,928)	194,681	(2.02)
2016	(12,658)	196,924	(6.43)
2017	1,932	221,665	0.87
2018	25,693	268,918	9.55
2019	(4,158)	277,884	(1.50)
2020	(12,883)	219,768	(5.86)
2021	6,232	301,439	2.07

Source: Table prepared by the researcher Based on:

- Column (1)(2) Republic of Iraq, Ministry of Planning and Development Cooperation, Central Statistical Organization, Statistical Bulletin (2004-2021).
- Column (3) From the researcher's work.

Note: The numbers in parentheses are negative numbers

As for Tami 2014 In 2016, the budget deficit was cut, as the ratio of the deficit to the GDP reached a negative ratio of -3.04% and -6.43%, respectively, which means that the sustainability of public finances is being undermined, but because of this, the ratio of the general budget deficit exceeded To the GDP within the safe or permissible limits according to the Federal Financial Management Law No. (6) of 2019, which set the deficit rate at 3% of GDP. The deficit is due to several reasons, starting with the decline in oil prices in global markets, which had major repercussions on the state's general budget, which contributed to increasing the budget deficit and exacerbating weaknesses and structural imbalances due to the almost complete dependence on oil export revenues, in addition to the pressures The resulting increase in military spending and the cost of dealing with the humanitarian crisis caused by ISIS, which prompted the government to address this crisis by obtaining financing, whether through debt (domestic or foreign) (Central Bank of Iraq, 2016: 55). The deficit ratio to The output is about 5.86% (-) in 2020, and its percentage exceeded the safe or permissible limits specified for this reason, and this is attributed to the decline in oil revenues as a result of the decline in global demand. Oil followed due to the Corona pandemic and the decline in global oil prices, in addition to Iraq's commitment to reduce production according to its own rules, OPEC+.

3. The tax gap index in Iraq for the period (2004-2021)

This index is based on the idea of maintaining the required ratio of public debt to The output, and it follows that tax policy should aim to reduce the gap between taxes that achieve financial sustainability and actual taxes, in light of the data on the size of public spending, real GDP growth rates, and the ratio of public debt to GDP. This indicator helps monitor and analyze tax revenue as one of the The main variables in implementing fiscal policy and financing the burdens of government activities, but it does not represent a sufficient condition for judging the sustainability of government fiscal policy. When analyzing the data and

results reached by calculating the tax gap index as in Table (3), we note that the index recorded positive results during the study period, indicating the failure to achieve financial sustainability, which means that the tax revenues achieved are very low and cannot be stabilized. The tax system in Iraq suffers from a percentage of inadequacy because the output is within safe limits, to the public debt and a severe weakness in mobilizing revenues and limiting Tax vessels, given the many challenges and obstacles facing the activation of tax policy as a tributary to the budget and a tool to stimulate growth and economic stability. The most prominent challenges that hinder the development of the tax system can be summarized in the excessive reliance on oil to finance the budget and the economy, and thus the weak incentive to activate taxes as an alternative source to finance public spending for political and social purposes usually. The weakness of the tax administration in collecting taxes also leads to a decline in tax revenues due to the severe lack of information and data necessary to accurately identify taxpayers and the spread of financial and administrative corruption in all administrative circles of the tax apparatus. In addition to the many tax exemptions and incentives that Iraq witnessed, randomly and unstudied, especially after 2003, on the one hand (Hassan, 2016: 435). On the other hand, the weakness of the regulatory system constitutes another obstacle to the development and launch of the tax system in the country. The tax administration also faces another problem represented by the absence of accounting data in the private sector, which increases the difficulty of estimating project profits, in addition to the spread of many unorganized sectors that are far from oversight (such as the owners of the liberal professions and crafts), which contributes to the loss of a large part of the possible tax revenues. The role of technical aspects in the decline in tax revenues cannot be ignored, as most employees in the tax apparatus suffer from low educational levels and weak levels of skills and training.

In addition, the low level of social and cultural literacy in tax literacy and its role in raising the level of services due to the lack of trust in the government and its ability to exploit tax revenues in an optimal manner, and the increase in the frequency of The financial and administrative corruption scandals witnessed by the Iraqi governments after 2003. As for customs taxes, which represent the most abundant tax burden in Iraq, they suffer from backward payment and assessment procedures at border crossings and depend on primitive work frameworks, which contributed greatly to the spread of financial corruption and weakened government

oversight of the performance of workers at these crossings. Please follow the spread of the forgery of papers of many goods imported into the country, for the purposes of tax evasion on the one hand and violating the law on the other hand.

4. The primary deficit index in Iraq for the period (2004-2021):

Both the real interest rate and the economic growth rate affect both the current and the primary balances. It is worth noting that the growth rate and the interest rate have a degree of influence on the primary balances due to the presence of other variables that affect them, such as public spending and public revenues. The indicator is used to measure financial sustainability and is based on calculating the ratio of the primary balance required for the budget to stabilize the ratio of public debt to GDP and the primary balance of the budget. If the balance If the required primary balance is greater than the acquired primary balance, then the primary gap is positive. This means that fiscal policy is not sustainable because it tends to raise the level of debt relative to GDP. Conversely, if the required primary balance is less than the current primary balance, fiscal policy tends to reduce the level of debt relative to GDP, which means achieving fiscal sustainability. Looking at Table (4), we note that most of the years during the study period recorded negative results, which means that the initial balance achieved is greater than the initial balance targeted, indicating the achievement of financial sustainability. That is, the initial balance achieved in the budget can stabilize the debt-to-GDP ratio, due to the fact that the real growth rate was greater than the real interest rate, because the general budget had a surplus during this year due to the increase in public revenues. Especially the oil ones, resulting from the increase in oil exports, the rise in its prices, and the increase in the economic burden on Iraq, in addition to the improvement in the gross domestic product and the improvement in the security situation.

As for the twins (2009 and 2013-2016 and 2019-2020), the projected surplus is positive, meaning that the targeted primary balance is greater than the achieved primary balance, meaning that financial sustainability is not achieved, as the achieved primary balance cannot stabilize the debt- to-GDP ratio, although the real growth rate in the economy was greater than the real interest rate, meaning that another variable affected the achieved surplus, which is represented by the growth in the rate of public spending greater than the growth in revenues, meaning that the general budget is a fragmented record in This period is due to a number of reasons, including

the extension of the effects of the global economic crisis in 2009, which was described as a global recession, and the decline in oil prices in global markets as a result of the subsequent decline in demand, which led to a decline in the state's general revenues, which was reflected in the size of the budget, recording a fragmentation.

Table (3). Iraq's primary deficit index for the period (2004-2021)

Year	Growth Rate	Interest Rate (rt) (%)	Public Debt Ratio to GDP (b_t−1) (%)	Targeted Primary Balance to GDP (%)	Available Primary Balance to GDP (%)	The Difference Between Target and Available Balance
2004	53.38	(21.00)	307.70	(0.79)	(3.55)	(3.55 - 0.79) = (2.76)
2005	1.67	(30.00)	165.98	(2.68)	(15.74)	(15.74 - 2.68) = (13.06)
2006	5.65	(37.20)	99.73	(0.67)	(12.77)	(12.77 - 0.67) = (12.09)
2007	1.88	(10.80)	61.19	(0.24)	(14.29)	(14.29 - 0.24) = (14.05)
2008	8.23	4.05	42.26	(0.01)	(8.58)	(8.58 - 0.01) = (8.57)
2009	3.38	0.53	43.36	(0.02)	(0.24)	(0.27 - 0.02) = (0.27)

2010	6.40	3.85	46.83	(0.01)	(0.04)	(0.03 - 0.01) = (0.03)
2011	7.55	0.40	36.41	(0.01)	(11.62)	(11.61 - 0.01) = (11.61)
2012	13.94	(0.10)	29.04	(0.01)	(5.78)	(5.77 - 0.01) = (5.77)
2013	7.63	4.10	26.58	(0.00)	(1.93)	(1.93 - 0.00) = (1.93)
2014	0.20	3.80	29.49	(0.03)	(3.07)	(3.04 - 0.03) = (3.04)
2015	4.72	4.60	55.57	(0.00)	(2.02)	(2.02 - 0.00) = (2.02)
2016	13.79	3.83	63.99	(0.02)	(6.41)	(6.43 - 0.02) = (6.43)
2017	(1.82)	3.80	56.76	(0.18)	(1.05)	(0.87 - 0.18) = (0.87)
2018	2.63	3.60	33.76	(0.00)	(9.55)	(9.55 - 0.00) = (9.55)
2019	5.51	4.20	24.71	(0.00)	(1.49)	(1.50 - 0.00) = (1.50)
2020	(11.32)	3.40	45.08	(0.03)	(5.83)	(5.86 - 0.03) = (5.86)

2021	2.78	(2.00)	33.54	(0.01)	(2.08)	(2.07 - 0.01) = (2.07)

Source: Republic of Iraq, Ministry of Planning and Development Cooperation, Central Statistical Organization, Statistical Bulletin (2004-2021)

During the period (2013-2016) F D The Iraqi economy is witnessing a clear financial crisis as a result of the Iraqi economy being exposed to a double shock due to the drop in oil prices in global markets to what 2014, in addition to the other challenge represented by the rise in the per barrel since June ($50) below the cost of free trade which was negatively reflected on the budget, in addition to the shortage of shelter and support for the displaced in the displacement camps, and the increase in the cost of re-exporting liberated areas that were affected by military operations, and all non-oil revenues and Iraq's failure to implement policies to diversify sources of income, which requires taking quick and serious steps represented by reducing sovereign expenditures, rationalizing public spending and increasing public debt.

As for Tamy 2019-2020, the Iraqi economy was exposed to a triple shock represented by the political and health crisis resulting from the spread of the Corona epidemic throughout the world and the complete collapse of global economic activities, and the decline in oil prices as a result of the decline in global demand, followed by Iraq's commitment to reduce its share of oil exports according to the requirements of OPEC+.

5. The Sustainable Financial Situation Index in Iraq (2004-2021):

It is a supplementary indicator to the previous Financial Sustainability Indicator and indicates how to direct financial policies to improve the balance between public debt and GDP. When interpreted from the point of view of the pace of change, the indicator indicates how the financial authority reacts from one year to another.

If the index value is greater than or equal to (1), it indicates that the situation is unsustainable, i.e., the fiscal policy is not consistent with the debt-to-GDP ratio of the sustainability level, and if the index value is less than (1), it indicates that the situation is sustainable, i.e., the fiscal policy is compatible with achieving sustainability. Analyzing the data in Table (5), we note that most of the years the index value was less than one, which

means that the fiscal policy is compatible with the required conditions to achieve sustainability.

Table (5): The index of the financial situation and sustainable development in Iraq for the period (2004-2021)*

Year	Initial Gap	Debt Ratio for the Year (b_t−1) (%)	InterestRate (Real %)	Growth Rate (Real, %)	Debt Ratio Target (%)	Debt Ratio for the Year (b) (%)	Initial Gap of General Debt Target - Debt Ratio for the Year (β)
2004	(0.38)	307.70	(21.00)	53.38	60.00	0.014	(0.38 0.014) = (0.37)
2005	(11.00)	165.98	(30.00)	1.67	60.00	0.148	(11.00 0.148) = (10.85)
2006	(5.77)	99.73	(37.20)	5.65	60.00	0.321	(5.77 0.321) = (5.45)
2007	(15.45)	61.19	(10.80)	1.88	60.00	12.051	(15.45 12.051) =(3.40)
2008	1.03	42.26	4.05	8.23	60.00	(0.484)	(1.03 - (0.484)) = 0.55
2009	0.33	43.36	0.53	3.38	60.00	0.015	(0.33 - 0.015) = 0.35
2010	0.66	46.83	3.85	6.40	60.00	(0.003)	(0.66 - (0.003)) = 0.66

2011	0.66	36.41	0.40	7.55	60.00	(0.493)	(0.66 - 0.493) = 0.16
2012	0.25	29.04	(0.10)	13.94	60.00	(0.187)	(0.25 - 0.187) = 0.06
2013	0.53	26.58	4.10	7.63	60.00	(0.058)	(0.53 - 0.058) = 0.59
2014	3.91	29.49	3.80	0.20	60.00	(0.101)	(3.91 - 0.101) = 4.01
2015	0.52	55.57	4.60	4.72	60.00	(0.455)	(0.52 - 0.455) = 0.98
2016	1.93	63.99	3.83	13.79	60.00	(1.604)	(1.93 - 1.604) = 0.33
2017	(5.53)	56.76	3.80	(1.82)	60.00	(0.323)	(5.53 - 0.323) = 5.86
2018	1.63	33.76	3.60	2.63	60.00	(0.364)	(1.63 - 0.364) = 1.27
2019	0.76	24.71	4.20	5.51	60.00	(0.042)	(0.76 - 0.042) = 0.80
2020	(0.82)	45.08	3.40	(11.32)	60.00	(0.391)	(0.82 - 0.391) = 0.43
2021	(0.19)	33.54	(2.00)	2.78	60.00	(0.079)	(0.19 - 0.079) = 0.26

*Columns(3), (7) and (8) are the work of the researcher based on the following mathematical equation:

$$IT = (QT - T) = 1 + g - bt - 11 - b*$$

The index was greater than one, which means that fiscal policy is not consistent with the conditions for achieving sustainability. This is due to the impact of fiscal policy on the global financial crisis that hit the world in 2008 and its accompanying events. The decline in oil prices, as for the years 2014 and 2016, the rise in interest rates followed the real growth rate in the year 2014, the major impact followed by fiscal policy, and all of this was the beginning of the double shock to the Arab economy represented by the Dutch attacks, the deterioration of the security situation, and the decline in oil prices. As public debt rose to (63.99%) of GDP in 2016, and in 2018 the interest rate was lower than the economic growth rate.

* Measuring the financial sustainability of Iraq for the period (2004-2021)

First: Series of tests.

A - Debt-to-GDP series (X1)

The augmented Dickey-Fuller (ADF) test was conducted for the series. The results shown in Table.

(6) showed that the series became The static series has a probability of 1% with a fixed limit and direction, and the static series has a probability of 10% without a fixed limit, which means rejecting the hypothesis.

A≠Any: I1:N A*H*L(The series is static free of 0)

B: W1L*H*L(Alternative hypothesis Nullness 0)

Unity hypothesis and the Phillips-Perron test (P) - (P) where the results of the ADF test are confirmed. The results showed that the series will have probabilities of 1%, 5%, and 10%, which indicates that the series is free of unit coefficients (the series is stationary) and is integrated to degree zero. This means that $\beta \neq 0$ ... (Nullness and alternative hypothesis(

We find Iraq's debt-to-GDP series.

 -Deficit-to-GDP series (X2):

After the expanded Dickey-Fuller (ADF) test, the deficit-to-GDP series in Iraq was followed, as shown in Table 6. The results show that the series is stationary in the plane, with a probability of 10% with that is: if

there is a constant term, which means rejecting the null hypothesis and the alternative hypothesis (A1: $\beta \neq 0$)

The series is safe and free of unit weights, and the Phillips-Perron test (P) - (P) confirmed the results of the (ADF) test, as the results of the (P-P) test showed that the series is stationary with a probability of 10% with a limit of Constant and directional, which means that the series is free of the unit charge, and that nullity.

Followed by the rejection of (D) Hypothesis **I**.

The series is integrated of degree zero.

And the hypothesis $0 = D:B1D$ (i.e.: The deficit-to-product series achieves financial sustainability in Iraq.

C - Tax Gap Index Series (X3):

The extended Dickey-Fuller (ADF) test was applied to determine the financial sustainability of the tax gap series, and the results showed, as shown in Table (6), that the series is stationary with probability levels of (1%), (5%), and 10% and without a constant term and: with a constant term and direction, which means that the alternative hypothesis that the series is free of unit ($H1: \beta \neq 0$) is rejected and the null hypothesis $0) = \beta$ ($H1$: is rejected, which means that the series is static. As for the results, The Phillips-Perron (P-P) test and the ADF test results indicate that the series is stationary at all levels. The probability Alternative (w **0**t) (l~n**I**) but the hypothesis 1% and 5% and 10% and integrated to degree zero) D0Hypothesis$\neq$Rdaaaaaaaaβy:e1lHa (dm i.e.: the series is stationary and free of unit J: and the series of the gap.

We know the tax is true Financial sustainability statistically. D - Primary deficit series (X4)

The augmented Dickey-Fuller (ADF) test was applied to the primary deficit series. The results showed that the series is stable at a probability level of 10% with a constant limit and trend, which means rejecting the null hypothesis and Alternative hypothesis ($H1: \beta \neq 0$) That is, the series is stationary, level, and free of A: The unit and integral of degree zero (**0**) ~ **I**, and: What is confirmed by the Phillips-Perron (P-P) test, where the

series will be at a probability level of 10% with a constant term and a constant term and a direction, and then

We reject the null hypothesis, That is: the chain achieves financial sustainability. The alternative hypothesis is ($H$1: $\beta \neq 0$)

E - Sustainable Financial Awareness Index Series (X5)

The D)K0i-$\neq$F: L1r AHl(ADF) test was conducted on the financial situation series. The results are shown

The series will be valid for all probability levels (1%), (5%) and (10%) and all the results are rejected,

Which means

And the alternative hypothesis is rejected ($H$1: $\beta \neq 0$)

The null hypothesis is rejected ($H$1: $\beta \neq 0$)

The series contains the following unit because the series is stationary in its level and integrated of degree

Zero(**0**) ~ **I** Wa: What was confirmed by the Phillips-Perron (P-P) test?

The series is static and does not explode at all probability levels (1%, 5% and 10%). Thus, we accept the alternative hypothesis and reject the null hypothesis, which means that the series is devoid of any unit, is static, and does not explode in the series, i.e. the series Financial Sustainability Achievement.

Second - Evaluating Financial Sustainability in Iraq:

The financial sustainability assessment in all-time series used in the assessment The statistical night, as the debt-to-GDP and deficit-to-GDP series were sustained as a result of growth at a rate lower than the GDP growth rate, as a result of the decline in public debt in agreement with the Paris Club on rescheduling Iraq's debts, according to which 80% of Iraq's external debts were extinguished, and a large part of the internal and external debts were paid as a result of the financial surpluses generated from oil revenues, and that sustainability was achieved as a result of the

Increase in oil exports, which contributed to the rise in the GDP so that it was able to control the growth rate of the deficit and debt. As for the tax gap indicator series, its results were in line with the economic and practical analysis that indicates the failure to achieve financial sustainability for Iraq, and because The available tax revenues are too low to stabilize the ratio of public debt to GDP within safe limits, but now the tax system in Iraq suffers from severe weaknesses in revenue mobilization and tax collection. Either the static time series of the tax gap indicator or the continuation of the low level of tax revenue collection, and the enactment of new tax laws through which tax revenues can be increased and made an important source of income for the state, and its dependence on oil revenues has become static and there is no significant change in it.

6.Conclusion:

The topic of financial sustainability is one of the important topics during the recent period, especially in rentier economies, The most important financial policies adopted by the countries are to avoid large financial deficits and the risks of free- riding, as well as to ensure financial discipline and achieve financial sustainability.

In Iraq The state has adopted an expansionary financial policy that justifies increasing operational spending with the aim of expanding economic activity, in addition to increasing government consumer spending, military spending, and investment spending. The matter leads to the growth of the financial deficit and the rise of public debt.

The revenues from the production of crude oil occupy the first place in the general revenues during the past years. The tax gap indicator indicates that the available tax revenues are very low: They cannot stabilize the debt-to-GDP ratio within safe limits, because the tax system in Iraq suffers from severe weaknesses in revenue mobilization and the blockade of tax funds. The financial sustainability indicators in Iraq indicate that most of the years have been financially sustainable but there were years in which Iraq was unable to achieve financial sustainability, including 2016.

Finally, the study makes the following suggestions:
- Research other sources of financing public revenues that are characterized by stability and relative stability to ensure government spending because the revenues resulting from oil exports are flexible in

meeting the demands of oil markets, which makes them stable and not static;

- Work to improve the tax system and tax legislation to include most tax levies and work to reduce tax evasion using modern electronic means.

- The Public Expenditure Officer is implementing a government program to reduce unnecessary spending address the imbalance in the budget's expenditure structure and work to increase investment expenditure due to its impact on.

- Diversifying the productive capacity, which will in turn be positively reflected in the sources of budget financing.

- Work to address the structural imbalances in the Iraqi economy by activating the role of other non-oil sectors (agriculture, industry, trade, and services) and enhancing the contribution of economic sectors to the gross domestic product, which ensures the diversity of the economy and avoids financial crises.

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